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REMARKS

In the present amendment, a drawing correction to Figure 5 has been proposed in response to the examiner's objection. Further, the specification has been amended to remove the reference to the numeral "540" on Page 4, line 19, and to make editorial corrections to Page 7 and Page 8 as suggested by the examiner. The examiner's helpful suggestions are most appreciated.

Further, the claims have been amended to overcome the objections under 35 U.S.C. § 112. It is believed that the amendments do overcome the examiner's objections to the claims.

With respect to the examiner's comment about claims 4 and 26 as to what is meant by the phrase "extend a portion of the distance from the bottom wall of the separator plate", claim 4 has been amended to indicate that the prongs extend a portion of the distance between the bottom wall and the separator plate. Claim 26 has this language already. The phrase means, as shown in the drawings, that the prongs extend part way between the bottom surface 582 and the separator plate 162. It is believed that the claim language, coupled with the description in the specification, is abundantly clear.

Claims 1-7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Oh et al. U.S. Patent No. 6,579,334 in view of the Conrad et al. U.S. Patent No. 6,129,775. This rejection is respectfully traversed.

The Oh et al. '334 patent discloses a cyclone dust collecting apparatus for a vacuum cleaner which has a cyclonic region and a dust collecting region. A plate 130 separates these two regions. The plate 130 extends across the entire width of the cyclone separator and has a small opening 130a near one edge thereof. The Conrad et al. '775 patent discloses a cyclone separator which has plurality of prongs extending upwardly from a bottom wall of a collector bin.

The combination of Conrad et al. '775 in view of Oh et al. '334 is traversed. There is no basis for making a combination. There is no suggestion as to how the Conrad et al. '775 prongs would be introduced in to the Oh et al. '334 dirt cup.

The Conrad et al. '775 reference relates to a cyclone separator that has in the cyclone separator a terminal insert (which can take various forms) which acts upon at least a portion of the fluid as the fluid rotates within the cavity to destructively interfere with the rotational motion

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of the fluid within the cavity. Oh et al. '334 patent discloses a cyclone separator, but the cyclone separator is above the plate 130, not below the plate 130. In order to combine these two references, the terminal inserts of the Conrad et al. '775 patent would have to be mounted on the upper surface of plate 130 and not below the plate in the dirt cup. There is no cyclonic action that takes place in the Oh et al. '334 dirt cup. In Oh et al. '334, cyclonic separation takes place above the plate 130.

Thus, even if the references were combined, as the examiner alleges, it still would not meet the limitations of claim 1 because the alleged combination would not provide airflow inhibitors in the dirt collecting bin to reduce the vertical component of an elliptical airflow. Further, there is likely not an elliptical airflow in the Oh et al. '334 patent because it has a single hole 130a for depositing the separated dirt into the dirt cup. Thus, the examiner's alleged combination would not meet the limitations of claim 1 and the claims dependent therefrom.

Further, the alleged combination would not have a separator plate between the cyclonic airflow chamber and the dirt collecting bin wherein the separator plate has a diameter less than a diameter of the cyclonic airflow chamber adjacent to the separator plate to thereby define a gap between the separator plate and the cyclonic airflow chamber for passage of dirt separated from the dirt-containing air stream in the cyclonic airflow chamber for passage of dirt through the gap which is accompanied by airflow patterns having horizontal and vertical components between the gap and one side of the dirt collecting bin and the bottom wall of the opposite side of the dirt collecting bin. The separator plate of Oh et al. '334 does not have a diameter less than the diameter of the cyclonic airflow chamber as required by claim 1. It has a diameter equal to the diameter of the cyclonic airflow chamber and does not define a gap between separator plate and the cyclonic airflow chamber for passage of dirt separated from the dirt containing air stream as required by claim 1. Thus, it is believed that claims 1-7 patentably define over any alleged combination of Oh et al. '334 and Conrad et al. '775.

It is noted with appreciation that claims 6-26 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph. It is believed that these claims are in condition for allowance because of the amendments made to overcome the rejection under 35

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U.S.C. § 112. These claims have not been rewritten in independent form in view of applicant's position that claims 1-7 patentably define over the alleged combination of Oh et al. '334 and Conrad et al. '775.

In view of the foregoing, it is submitted that all of the claims are in condition for allowance. Early notification of allowability is respectfully solicited.

Should the examiner have any further questions, she is requested to contact the undersigned attorney.

Respectfully submitted,

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